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10/525,080	02/18/2005	Jouni Hyvarinen	122835	5061
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SZEWCZYK, CYNTHIA				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/525,080

Applicant(s)

HYVARINEN ET AL.

Examiner

CYNTHIA SZEWCZYK

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 2/18/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This is the initial office action for HYVARINEN et al. Application No. 10/525,080 filed February 18, 2005.
2. Claims 1-28 are currently pending and have been considered.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5-9, and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by YOKOKAWA et al. (US 4,608,071).

YOKOKAWA et al. teaches a method and apparatus for reducing the diameter of a glass rod or tube by drawing. YOKOKAWA et al. discloses that the glass rod or tube is gripped at the upper and lower end (col. 2, lines 20-23) (gripping means of instant claims 1 and 5). YOKOKAWA et al. discloses that the glass is heated by heating means (col. 2, lines 24-27) (heating means of instant claim 1 and 5). YOKOKAWA et al. discloses that the heating means and gripping means are both movable (col. 2, lines 28-37) (movable of instant claims 1 and 5).

YOKOKAWA et al. discloses that the lower gripping means can be movable or fixed (col. 3, lines 53-57) (independently adjustable of instant claims 2 and 6).

YOKOKAWA et al. discloses that the apparatus is provided with means to rotate the glass rod or tube around its longitudinal axis (col. 3, lines 10-13) (means for rotating of instant claims 3 and 9).

The abstract of YOKOKAWA et al. discloses that the preform is effected by the downward movement of the lower grip (vertically from top downwards of instant claim 7) or by the upward movement of the upper grip (vertically from bottom upwards of instant claim 8).

YOKOKAWA et al. discloses that the drawing is intended to reduce or adjust the diameter of the tube or rod (col. 3, lines 45-48) (correcting diameter of instant claim 12).

Figure 2c shows the tube that may result from the prior art methods. Figures 3a - 3c show the rod that results from the present invention. As can be seen in the picture, the method of YOKOKAWA et al. results in a non-warped diameter (correcting roundness of instant claim 13).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over YOKOKAWA et al. (US 4,608,071) in view of SYMBORSKI et al. (US 4,194,896).

YOKOKAWA et al. teaches a method and apparatus for reducing the diameter of a glass rod or tube by drawing. YOKOKAWA et al. fails to teach that the apparatus includes cutting means.

SYMBORSKI et al. teaches a method and apparatus for forming glass filaments. SYMBORSKI et al. discloses that in order to get a final product, the glass filaments must be cut into individual fibers (col. 2, lines 34-35). YOKOKAWA et al. is silent as to the method for removing the drawn fibers. It would have been obvious to one of ordinary skill that the drawn fibers could have been cut out of the apparatus. Therefore, it would have been obvious to incorporate cutting means into the method and apparatus of YOKOKAWA et al.

7. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over YOKOKAWA et al. (US 4,608,071) in view of YAMAMURA et al. (US 6,220,057 B1).

YOKOKAWA et al. teaches a method and apparatus for reducing the diameter of a glass rod or tube by drawing. YOKOKAWA et al. fails to teach that the apparatus contains more than one heating means.

YAMAMURA et al. teaches an apparatus and method for drawing a glass ingot. Figure 1 shows that the glass is held by an upper support (9) and a lower support (8). Figure 1 also shows that the heating area contains three heating means (1a, 1b, 1c).

YAMAMURA et al. discloses that the heating means are individually controlled to obtain a temperature differential (col. 1, lines 60-62). Using three individually controlled heating means in the apparatus of YOKOKAWA et al. would have provided better control of the overall heating means which in turn would have resulted in better control of the rod or tube diameter. YOKOKAWA et al. discloses that the heating means is not limited (col. 3, lines 17-20). The glass rod or tube must be heated and softened to a plastically deformable state in order to adjust the diameter of the rod or tube (YOKOKAWA col. 3, lines 14-17). Using more than one heating means would heat a greater area of the glass rod. YOKOKAWA et al. discloses that the heating means must move down the rod or tube, therefore, if more than one heating means is used, it would be necessary for all the heating means to be movable. Therefore, the claimed invention would have been obvious.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over YOKOKAWA et al. (US 4,608,071) in view of MCMOORE JR et al. (US 4,889,295).

YOKOKAWA et al. teaches a method and apparatus for reducing the diameter of a glass rod or tube by drawing. YOKOKAWA et al. fails to teach that the method is used in association with a sleeving process.

MCMOORE JR et al. teaches an optical fiber sleeving guide. MCMOORE JR et al. discloses that optical fibers are known to be delicate and cuts, nicks, bruises, or other disruptions to the fiber can lead to catastrophic failure during fast payout and can lead to significant degradation of the optical transmissivity of the fiber (col. 1, lines 19-

23). MCMOORE JR et al. discloses that it is known in the art to employ a sleeving process to protect the optical fiber (col. 1, line 28). It would have been obvious to incorporate a sleeving process into the process of YOKOKAWA et al. to protect the end product from cuts, nicks, or bruises. Therefore, the claimed invention would have been obvious.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over YOKOKAWA et al. (US 4,608,071) in view of FLEMING JR et al. (US 5,578,106).

YOKOKAWA et al. teaches a method and apparatus for reducing the diameter of a glass rod or tube by drawing. YOKOKAWA et al. fails to teach that the method is used in association with a collapsing process.

FLEMING JR et al. teaches a method for making an optical fiber perform by collapsing a hollow glass tube upon a glass rod. FLEMING JR et al. discloses that the collapsing process is an integral part of creating an optical fiber preform (col. 1, lines 55-59). The collapsing process of FLEMING JR et al. allows for adding a tube jacket to a rod. It would have been obvious that the collapsing process of FLEMING JR et al. could be used in the process of YOKOKAWA et al. because FLEMING JR et al. results in an optical fiber preform (title) and YOKOKAWA et al. requires a perform (col. 1, lines 9-13). Therefore, the claimed invention would have been obvious.

10. Claims 16-19, 21-25, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over YOKOKAWA et al. (US 4,608,071) in view of DRUMMOND (US 4,033,741).

YOKOKAWA et al. teaches a method and apparatus for reducing the diameter of a glass rod or tube by drawing. YOKOKAWA et al. discloses that the glass rod or tube is gripped at the upper and lower end (col. 2, lines 20-23) (gripping means of instant claims 16 and 21). YOKOKAWA et al. discloses that the glass is heated by heating means (col. 2, lines 24-27) (heating means of instant claim 16 and 21). YOKOKAWA et al. discloses that the heating means and gripping means are both movable (col. 2, lines 28-37) (movable of instant claims 16 and 21).

YOKOKAWA et al. discloses that the lower gripping means can be movable or fixed (col. 3, lines 53-57) (independently adjustable of instant claims 17 and 22).

YOKOKAWA et al. discloses that the apparatus is provided with means to rotate the glass rod or tube around its longitudinal axis (col. 3, lines 10-13) (means for rotating of instant claims 18 and 25).

The abstract of YOKOKAWA et al. discloses that the preform is effected by the downward movement of the lower grip (vertically from top downwards of instant claim 23) or by the upward movement of the upper grip (vertically from bottom upwards of instant claim 24).

YOKOKAWA et al. discloses that the drawing is intended to reduce or adjust the diameter of the tube or rod (col. 3, lines 45-48) (adjusting diameter of instant claim 28).

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It would have been obvious that adjusting the diameter of a tube would have adjusted the wall thickness.

YOKOKAWA et al. fails to teach that the gripping means contains coiling means.

DRUMMOND teaches a method and apparatus for forming a containerized glass strand package. DRUMMOND discloses that it is known in the art to wind finished glass fiber around a mandrel to produce a package of glass fiber strand (col. 1, lines 9-10). The wound glass fiber is easier for handling and packaging. It would have been obvious to add the coiling means to the gripping means as in instant claim 19 so that the finished fiber can be wound into coils which could then be packaged and shipped to the end consumer (DRUMMOND col. 1, lines 47-49). Therefore, the claimed invention would have been obvious.

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over YOKOKAWA et al. (US 4,608,071) in view of DRUMMOND (US 4,033,741) as applied to claims 16-19, 21-25 and 28 above, and further in view of SYMBORSKI et al. (US 4,194,896).

YOKOKAWA as modified by DRUMMOND teaches a method and apparatus for reducing the diameter of a glass rod or tube by drawing wherein the gripping means included coiling means. Modified YOKOKAWA et al. fails to teach that the apparatus includes cutting means.

SYMBORSKI et al. teaches a method and apparatus for forming glass filaments. SYMBORSKI et al. discloses that in order to get a final product, the glass filaments

must be cut into individual fibers (col. 2, lines 34-35). Modified YOKOKAWA et al. is silent as to the method for removing the drawn fibers. It would have been obvious to one of ordinary skill that the drawn fibers could have been cut out of the apparatus. Therefore, it would have been obvious to incorporate cutting means into the method and apparatus of modified YOKOKAWA et al.

12. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over YOKOKAWA et al. (US 4,608,071) in view of DRUMMOND (US 4,033,741) as applied to claims 16-19, 21-25 and 28 above, and further in view of YAMAMURA et al. (US 6,220,057 B1).

YOKOKAWA as modified by DRUMMOND teaches a method and apparatus for reducing the diameter of a glass rod or tube by drawing wherein the gripping means included coiling means. Modified YOKOKAWA et al. fails to teach that the apparatus contains more than one heating means.

YAMAMURA et al. teaches an apparatus and method for drawing a glass ingot. Figure 1 shows that the glass is held by an upper support (9) and a lower support (8). Figure 1 also shows that the heating area contains three heating means (1a, 1b, 1c). YAMAMURA et al. discloses that the heating means are individually controlled to obtain a temperature differential (col. 1, lines 60-62). Using three individually controlled heating means in the apparatus of modified YOKOKAWA et al. would have provided better control of the overall heating means which in turn would have resulted in better control of the rod or tube diameter. Modified YOKOKAWA et al. discloses that the

heating means is not limited (YOKOKAWA col. 3, lines 17-20). The glass rod or tube must be heated and softened to a plastically deformable state in order to adjust the diameter of the rod or tube (YOKOKAWA col. 3, lines 14-17). Using more than one heating means would heat a greater area of the glass rod. Modified YOKOKAWA et al. discloses that the heating means must move down the rod or tube, therefore, if more than one heating means is used, it would be necessary for all the heating means to be movable. Therefore, the claimed invention would have been obvious.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. SAITO et al. (US 5,942,019) teaches a method of elongating glass perform wherein the ends of the glass preform is held by gripping means that are movable.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CYNTHIA SZEWCZYK whose telephone number is (571)270-5130. The examiner can normally be reached on Monday through Thursday 7:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/
Supervisory Patent Examiner, Art
Unit 1791

CS